The Development of Sustainable Alternatives to Applicant's Proposals Using Collaborative Approaches

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Abstract

The purpose of the Resource Management Act is to achieve sustainable management. However the development of alternatives is primarily the responsibility of applicants. In practice this usually leads to proposals that maximise the interests of applicants and result in adverse effects at the margins of acceptability. This paper describes the application of collaborative approaches to two controversial storage proposals in Canterbury – a dam on the Orari River and the Hurunui Water Project (a storage on the South Branch of the Hurunui River and control gates on Lake Sumner). Both processes led to the development of different alternatives which were superior in terms of sustainable management, lower impacts and greater community acceptance – respectively an off-river storage taking high flows from the Rangitata River, and, a series of storages on the Waitohi River, a tributary to the Hurunui.

The use of collaborative processes as an alternative to RMA processes to resolve issues was initially resisted by applicants. However there has been a high level of acceptance of the value of collaboration after innovative alternatives were developed. Some of the key learning outcomes from this approach include: the value of collaborative engagement with affected communities outside of adversarial RMA processes; the improvements in alternative generation from collaboration if affected communities can meaningfully participate in decisions on alternative selection; and, the limitations of RMA processes in achieving sustainable management.

1. Introduction

The Resource Management Act was designed on the premise that people know best what it is that they are after in pursuing their well being[1]. Thus the responsibility for defining proposals was left to proponents. The RMA was also designed on the basis of "effects management", i.e. that choices by applicants would be constrained by bottom lines.

This approach may be suited to circumstances where there is an abundance of resources. However when resource use approaches sustainability limits, either in terms of resource availability or in terms of cumulative effects of resource use, then the actions of one user came harm all others. Indeed for a common pool resource (i.e. a resource that is readily accessible and difficult to exclude access to, and, is in limited supply so that resource use by one user diminishes the availability for others), allowing all users to act in their own self interest leads to degradation of the resource for all users.[2]

The work of Ostrom indicates that collaborative governance approaches provide institutional arrangements compatible with sustainable management of common pool resources.[3] This paper provides two examples from water management in Canterbury where collaborative approaches were used to consider alternatives when there were concerns about the sustainability of applicant's initial proposals. The first example is the proposal for a storage on the Orari River. Community concerns led to the regional council initiating a community planning process for the Orari catchment in partnership with the Landcare Trust. The second example is the Hurunui Water Project proposal which involved putting control gates to manage the level of Lake Sumner and a dam on the South Branch of the Hurunui River. RMA statutory processes were well advanced including a resource consent for the applicant's proposal and a Water Conservation Order to prevent damming the Hurunui and controlling Lake Sumner.

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[1] Upton, S. (1995) Purpose and Principle in the Resource Management Act. *Waikato Law Review 1995 V 3,* pp17-55.

[2] Hardin, G., (1968) The Tragedy of the Commons. *Science 162,* pp1243-1248.

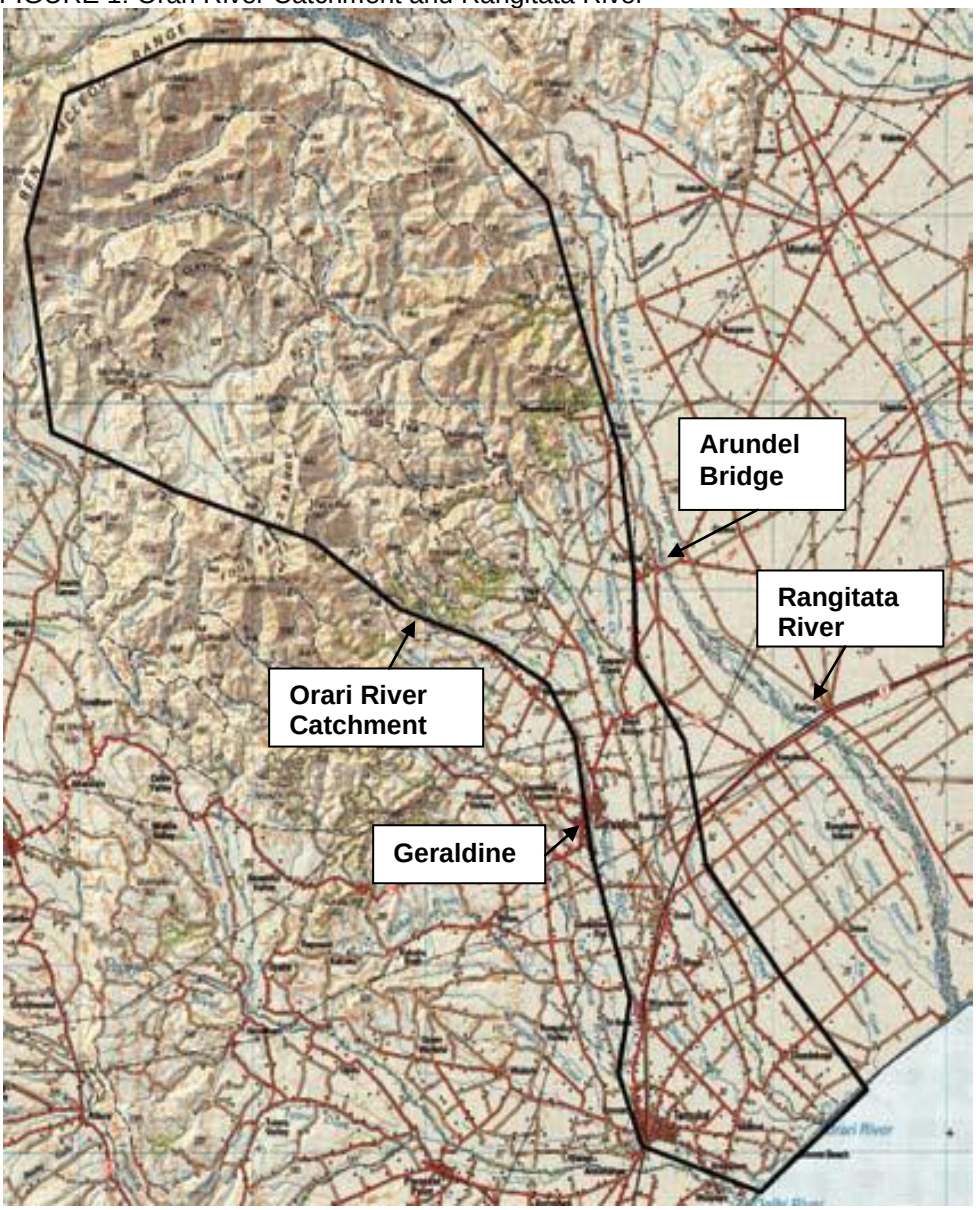
[3] Ostrom, E. (1990) *Governing the Commons: The Evolution of Institutions for Collective Action.* Cambridge University Press: Cambridge.

The paper provides a description of the two processes and the generation of alternatives that were superior in terms of sustainability, and a discussion of the key learning outcomes from these processes.

2. Orari River Dam

Rangitata South Irrigation Limited (RSIL) was formed in 1999 with the aim of bringing reliable irrigation water to the land between the Orari and Rangitata Rivers (Figure 1). RSIL's initial application was for 5.94 cumecs run-of-river withdrawal from the Rangitata River to irrigate 16,000ha. There was already concern about the existing level of withdrawals from the Rangitata. Also in 1999, Fish and Game NZ initiated a Water Conservation Order process for the Rangitata River.[4] After the run-of-river withdrawal was declined in 2004, RSIL proposed to dam the Orari River. This proposal met strong opposition from the Orari Catchment community leading to the formation of the Orari River Protection Group.

FIGURE 1: Orari River Catchment and Rangitata River[5]



[4] The Water Conservation Order was eventually signed into law in 2006.
[5] Orari ICM Community Group (2008). Orari River Catchment Management Strategy, prepared for Environment Canterbury.

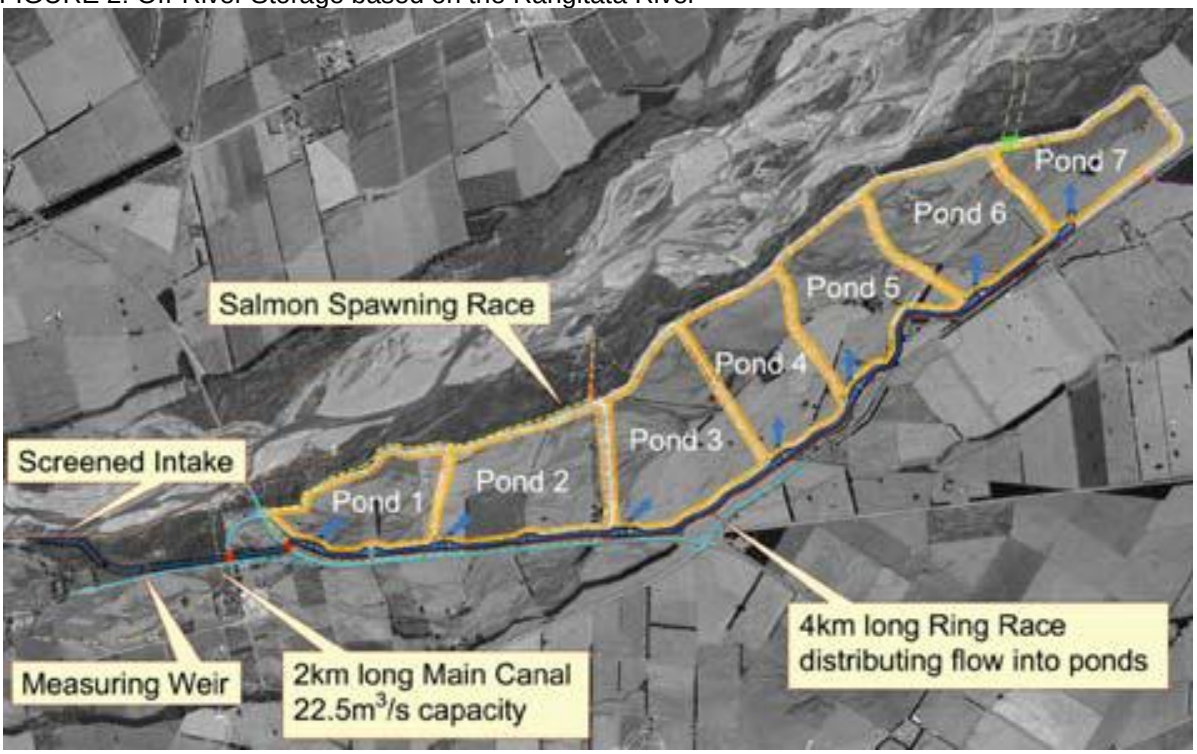
To address these concerns the regional council in partnership with the NZ Landcare Trust organised community meetings in Geraldine. Initial meetings were addressed by technical experts on the water resources of the Orari catchment and by spokespersons for different stakeholder interests. Over time the hostility of the meetings subsided and constructive discussions commenced.

The community process led RSIL to consider an alternative approach to storage. This was taking of water during high flows on the Rangitata and diverting the water to an off-river storage. This alternative was well received by the community interests. From having 400 objections to the Orari Dam proposal, the new method of storage met virtually no opposition.

The community catchment group continued and developed the Orari River Catchment Management Strategy (Orari ICM Community Group, 2008)[6]. This has led to community involvement in a range of voluntary activities, such as pest and weed control, and, blue duck habitat protection. The Strategy has also been invaluable to the regional council in managing its activities.

RSIL proceeded with the consenting process with consents granted in 2009. The scheme is designed to take water from upstream of the Arundel Bridge mostly when flows are greater than 110 cumecs, store it in ponds covering 280 ha to a maximum volume of 16.5 Mm^3. (see Figure 2.) Water is then distributed by existing stockwater and new races to the scheme's 30 shareholders to enable irrigation of 12,000 ha.

FIGURE 2: Off-River Storage based on the Rangitata River[7]



3. Hurunui Storage Options

In the Canterbury Strategic Water Study (Morgan et al 2002)[8], one of the areas identified where there was land capable of being irrigated but without reliable water supply was the Hurunui-Waipara

[6] Orari ICM Community Group (2008). Orari River Catchment Management Strategy, prepared for Environment Canterbury.
[7] Damwatch: Rangitata South Irrigation Case Study. www.damwatch.co.nz/rangitata.pdf, accessed 4/1/2013.
[8] Morgan, M., Bidwell, V., Bright, J., and McIndoe, I. (2002). Canterbury Strategic Water Study, prepared for Environment Canterbury, Ministry of Agriculture and Forestry and Ministry for the Environment.

catchments in North Canterbury. Stage 2 of the Study[9] identified the following storage options for the Hurunui:

- Lake Sumner: controlling outflows with a control gate structure
- Hurunui South Branch: a 75m high dam for irrigation
- Mandamus: dam upstream of the junction with the Hurunui
- Waitohi: tributary storage with pumped flows from the Hurunui
- Pahau; a 35m high dam for irrigation
- Waipara: possible sites at Greys Road and Clarke Hall Road.

The locations of the storage options are shown in Figure 3 and an economic comparison of them is set out in Table 1.

FIGURE 3: STORAGE OPTIONS IN THE HURUNUI AND WAIPARA CATCHMENTS[10]

TABLE 1: ECONOMIC COMPARISON OF STORAGE OPTIONS

STORAGE OPTIONS	VOLUME (Mm^3)	CAPITALISED COST ($m)	UNIT COST ($m/$Mm^3$)
Lake Sumner	37	3.0	0.08
Hurunui South	96	32.8	0.34
Mandamus	35	16.2	0.46
Waipara North Branch	30	20.1	0.67
Waitohi	130	94.5	0.73
Pahau	20	16.1	0.81

[9] Riley Consultants (2010). Canterbury Water Management Strategy: North Canterbury Storage Options, prepared for Environment Canterbury.
[10] Riley Consultants (2010). Canterbury Water Management Strategy: North Canterbury Storage Options, prepared for Environment Canterbury.

In order to achieve the potentially irrigable area, the low cost approach was for a combination of control gates on Lake Sumner and a storage on the Hurunui South Branch. Of the potentially irrigable land in the area (74,671ha), there are 7,336 ha of existing irrigation. The combined Lake Sumner and Hurunui South Branch proposal could irrigate a further 67,900 ha.

The Hurunui Water Project Ltd was established and lodged a resource consent in June 2009 for the combination of control gates on Lake Sumner and a storage on the South Branch of the Hurunui River. Another RMA process had been put in train by NZ Fish & Game and Whitewater NZ; they had lodged an application in August 2007 for a Water Conservation Order to protect the Hurunui River. The WCO process had reached the point in August 2009 where the Special Tribunal appointed to assess the application had recommended that a conservation order be granted for the North Branch but not the South Branch. Whitewater NZ lodged an appeal to the Environment Court to include the South Branch.

In this time period, central government removed the elected council and replaced them with appointed commissioners. This required legislation – the Environment Canterbury (Temporary Commissioners and Improved Water Management) Act which was given assent on 12 April 2010. The Act also included a number of additional powers relevant to water storage in North Canterbury. One was the power to impose moratorium on specified consent applications (subject to government approval). A second varied the WCO process and the relevant criteria for decision making in relation to WCOs. A third was to remove appeals to the Environment Court but allow appeals on points of law to the High Court.

A moratorium was placed on consent applications for water associated with the Hurunui in July 2010 until October 2011. A further moratorium was placed on the adjacent Waiau River in December 2010 also until October 2011. This was to allow time to get a regional plan and an agreed storage strategy in place for the Hurunui.

A third RMA process was also in progress: the Natural Resources Regional Plan being prepared by the regional council. The NRRP had been notified as a draft in 2004 and the decisions were publicly notified in October 2010. The council's decision was to make damming the Hurunui a non-complying activity. This decision was appealed to the High Court by the Hurunui Water Project Ltd in November 2010.

Under the Canterbury Water Management Strategy, the Hurunui-Waiau Zone Committee was formed in July 2010 to develop the Zone Implementation Programme (ZIP) for the Hurunui-Waiau catchments. The RMA processes were set aside to see if this collaborative process could achieve an agreed storage strategy. The Zone Committee recommended investigation of the Waitohi alternative. The Waitohi Selection Panel was appointed to review and recommend on three Waitohi options.

As stated in the Report of the Panel "the purpose of the Panel was to expedite the development of irrigation storage in the Hurunui in the face of three substantive scheme proposals, by providing advice and recommendations on the merits of the schemes". Three proposals were compared: the Hurunui Water Project Ltd proposal with the main storage at Hurricane Gully, the Fraser Geologics proposal including power stations and a large dam in the lower Waitohi Gorge, and, the Direct Project Management proposal based on a dam in the lower Waitohi Gorge. The comparison was undertaken in 7 steps:

(1) Consultation with sponsors and proponents leading to a terms of reference for the Panel
(2) Presentations by proponents of their proposals
(3) Analysis of key criteria
(4) Site visit
(5) Draft reports prepared on information provided proponents and incorporation of their feedback
(6) Face-to-face discussions with proponents prior to preparing the final report
(7) Submitting the final report and recommendations to the sponsors.

The key selection criteria were considered to be:

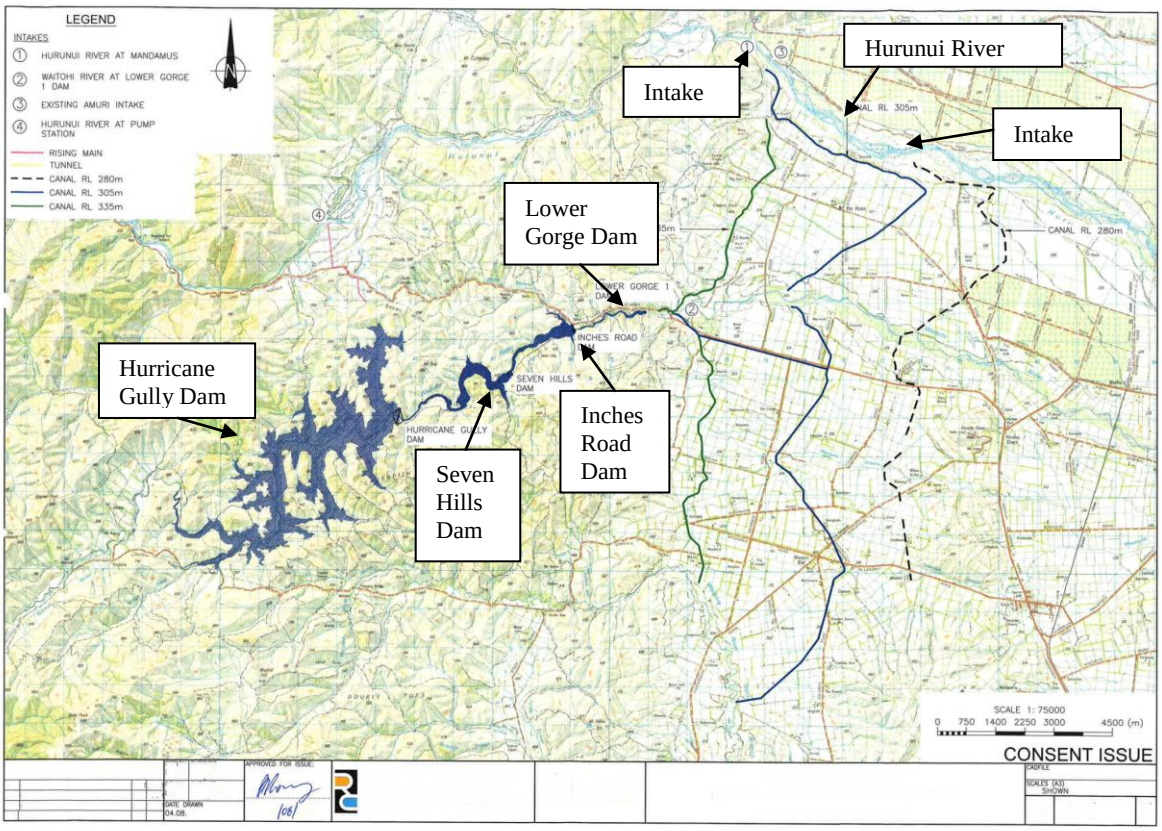
- The capital cost per hectare and net present value of the scheme infrastructure
- Environmental acceptability and consequent consentability
- Potential contribution of hydroelectricity generation to offset costs to farmers
- A scheme proposal that could proceed at the earliest possible opportunity.

The decision making process in the Hurunui-Waiau Zone introduced a new component of evaluation for alternatives to the initial proposal of a dam on Hurunui South Branch and control gates on Lake Sumner. This was an "affordability analysis" of different proponents' proposals by an independent panel (Waitohi Selection Panel, 2011).[11]

In evaluating the alternative proposals, affordability was the key issue along with policy alignment with the Canterbury Water Management Strategy. All proposals avoided the main environmental concerns of damming a main-stem of a braided river and interfering with the levels of Lake Sumner which had been the main concerns of the earlier proposal. However the taking water in Maori Gully was seen as a disadvantage of the Fraser Geologics proposal.

The Selection Panel favoured the Hurricane Gully alternative. This involved four storage dams on the Waitohi River and on-plains storage to irrigate 58,500ha in the Hurunui, Waipara and Kowai catchments. There are two intake structures to divert water from the Hurunui: one immediately downstream of the Mandamus confluence and the other 1.5km downstream of the confluence with Surveyors Stream. Indicative locations are shown in Figure 4. The consent application for this proposal was publicly notified in September 2012. Very few submissions were received compared to over a 1,000 (predominantly negative) submissions on the original proposal

FIGURE 4: WAITOHI TRIBUTARY STORAGE PROPOSAL[12]



[11] Waitohi Selection Panel (2011). *Report of the Waitohi Selection Panel.* Submitted to Environment Canterbury, Hurunui-Waiau Zone Water Management Committee, Hurunui District Council and CWMS Regional Water Management Committee.

[12] Chris Hansen Consultants (2012). HWP Waitohi Irrigation and Hydro Scheme: Resource Consent Application; prepared for Hurunui Water project.

4. Key Learning Outcomes

Three key learning outcomes relate to:

- improvements in alternative generation
- differences in the type of discussions between stakeholders
- limitations of the Resource Management Act

In relation to the generation of alternatives, the examples show that under RMA processes applicants focus on the lowest cost option and there is little incentive to consider alternatives that improve non-financial outcomes. However, for developments associated with resources with multiple users and at sustainability limits (i.e. common pool resources), the lowest cost option for the applicant may not be the lowest cost option for all users. The effects on other users can be considered to be unacceptable. The involvement of other users in generating alternatives can lead to acceptable cost alternatives for the applicants and acceptable effects for other users.

There is a marked difference in the nature of the discussion between applicants and other users in collaborative processes compared to RMA processes. In RMA processes, there is a tendency for applicants to defend their proposals and argue against the concerns raised by other users; and for other users to oppose applicant's proposals and focus on potential adverse effects. This creates an adversarial process with participants defending their respective positions. For well designed collaborative processes, there is the potential to move from antagonistic discussions to mutual recognition of the concerns of other participants and a willingness to consider alternatives.

The two case studies highlight the limitations of RMA processes in relation to the generation of sustainable alternatives for developments associated with common pool resources. The concept of applicant-driven proposals within the constraints of effects management is not sufficient to manage resources when resource use approaches sustainability limits. In the case of the Orari Dam proposal it required a community engagement process facilitated by the regional council to generate a more appropriate alternative. In the case of the Hurunui proposal it required formal withdrawal from RMA processes and the reliance on the collaborative governance approach of the Zone Committee for implementing the Hurunui-Waiau Zone component of the Canterbury Water Management Strategy to generate an acceptable alternative.